

*** Movie 1: bogey_jfm10_vortdelta.avi

Snapshots in the (z,r) plane of vorticity norm obtained for the jets without inlet noise and with initial boundary layer thickness of $d=0.2r_0$ (JetD02), $d=0.1r_0$ (JetD01), $d=0.05r_0$ (JetD005), and $d=0.025r_0$ (JetD0025). The color scale ranges from 0 to the level of $6.5u_j/r_0$ (u_j and r_0 : jet velocity and radius). Jets with thinner boundary layer develop earlier but at a slower rate, leading to longer potential cores.

*** Movie 2: bogey_jfm10_vortdeltazoom.avi

Snapshots in the (z,r) plane of vorticity norm obtained downstream of the pipe lip for the jets without inlet noise and with initial boundary layer thickness of $d=0.2r_0$ (JetD02), $d=0.1r_0$ (JetD01), $d=0.05r_0$ (JetD005), and $d=0.025r_0$ (JetD0025). The color scale ranges from 0 to the level of $10u_j/r_0$ for JetD02, but to $20u_j/r_0$ for the other jets (u_j and r_0 : jet velocity and radius). In all jets, the shear-layer transition is dominated by processes of vortex rolling-up and pairing.

*** Movie 3: bogey_jfm10_vortforcing.avi

Snapshots in the (z,r) plane of vorticity norm obtained downstream of the pipe lip for the jets with initial boundary layer of $d=0.05r_0$, without inlet noise (JetD005) and with random pressure disturbances in the pipe of maximum amplitude 250 Pa (JetD005p250) and 2000 Pa (JetD005p2000). The color scale ranges from 0 to the level of $20u_j/r_0$ (u_j and r_0 : jet velocity and radius). The introduction of inlet noise results in weaker vortex rolling-ups and pairings.

** Movie 4: bogey_jfm10_presdelta.avi

Snapshots in the (z,r) plane of vorticity norm and fluctuating pressure obtained directly from Large-Eddy Simulation, for the jets without inlet noise and with initial boundary layer thickness of $d=0.2r_0$ (JetD02), $d=0.1r_0$ (JetD01), $d=0.05r_0$ (JetD005), and $d=0.025r_0$ (JetD0025). The color scales range for levels from 0 to $5u_j/r_0$ for vorticity, and from -200 to 200 Pa for pressure (u_j and r_0 : jet velocity and radius). Strong acoustic waves are generated by the turbulent transition of the shear layers. Their frequencies and magnitudes decrease with thinner inlet boundary layer.

*** Movie 5: bogey_jfm10_presforcing.avi

Snapshots in the (z,r) plane of vorticity norm and fluctuating pressure obtained directly from Large-Eddy Simulation, for the jets with initial boundary layer of $\delta=0.05r_0$, without inlet noise (JetD005) and with random pressure disturbances in the pipe of maximum amplitude 250 Pa (JetD005p250) and 2000 Pa (JetD005p2000). The color scales range for levels from 0 to $5u_j/r_0$ for vorticity, and from -150 to 150 Pa for pressure (u_j and r_0 : jet velocity and radius). The introduction of inlet noise reduces vortex pairing noise.